



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,398	01/05/2001	Theodorous J. Dingemans	16079-1	8310

7590 04/01/2002

NASA Langley Research Center
MAIL STOP 212
3 Langley Boulevard
HAMPTON, VA 23681-2199

[REDACTED] EXAMINER

SHORT, PATRICIA A

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

1712

5

DATE MAILED: 04/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/757398

Applicant(s)

Dingemans et al.

Examiner

Shurt

Group Art Unit

1712

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE Three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- Responsive to communication(s) filed on April 13, 2001
- This action is FINAL.
- Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- Claim(s) 11-20 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- Claim(s) _____ is/are allowed.
- Claim(s) 11-13, 15 - 20 is/are rejected.
- Claim(s) 14 is/are objected to.
- Claim(s) _____ are subject to restriction or election requirement

Application Papers

- The proposed drawing correction, filed on 4/13/01 is approved disapproved.
- The drawing(s) filed on _____ is/are objected to by the Examiner
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- All Some* None of the:
- Certified copies of the priority documents have been received.
 - Certified copies of the priority documents have been received in Application No. _____.
 - Copies of the certified copies of the priority documents have been received
in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- Notice of Reference(s) Cited, PTO-892
- Notice of Draftsperson's Patent Drawing Review, PTO-948
- Interview Summary, PTO-413
- Notice of Informal Patent Application, PTO-152
- Other _____

Office Action Summary

Art Unit: 1712

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-13 and 15-17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over each of Benicewicz '612 and '011. Each of the references teaches liquid crystal compounds having ester or amide linkages in the backbone and terminated by imide groups that are used to form thermoset polyesters or polyamides. The claimed oligomers do not distinguish over the low molecular weight diester and diamide liquid crystal compounds of the references or it would have been obvious to form mixtures of the diesters or diamides and use for their intended purpose of forming thermoset polyesters or polyamides.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Art Unit: 1712

Claims 12 and 18-20 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for oligomers having a liquid crystal backbone selected from ester, ester-amide and ester-imide and self reactive end caps as defined in claim 12, does not reasonably provide enablement for oligomers having a liquid crystal backbone having one structural unit and self reactive end caps as defined in claim 12. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. The only liquid crystal oligomeric backbones that applicant has taught how to make are ester, ester-amide and ester-imide. See the specification at pages 5 through 7.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 17 is indefinite because there is no antecedent basis for polymer product in claim 11.

Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Choi cited to show nadimide terminated aromatic polyesters.

Art Unit: 1712

P. Short

March 21, 2002

Phone (703) 308-2395

Fax (703) 872-9310

**PATRICIA A. SHORT
PRIMARY EXAMINER**

Patricia A. Short